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Art Unit 2821  
Examiner: Phan

## REMARKS

### Remarks

Reconsideration of the rejection of the present Application under 35 USC 112, 35 USC 102 and the rejection under the judicially created Doctrine of Double Patenting is hereby requested.

Claims 24 – 27 stand rejected under 35 USC 112, second paragraph as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claims 24 – 27 have been amended to now recite the proper antecedent basis in those claims.

Claims 19 and 37 – 41 stand provisionally rejected under the judicially created doctrine of obviousness-type Double Patenting in view of co-pending Application no. 10/789,390. U.S. Patent Application 10/789,390 is commonly owned with the present Application. A Terminal Disclaimer with the proper fee is enclosed herewith to overcome such double patenting rejection. Withdrawal of such double patenting rejection is solicited.

Claims 19, 37 – 39 and 41 – 43 stand rejected under 35 USC 102(e) as being anticipated by the reference to Ruoff et al. (5,547,748). Examiner states that Ruoff et al, in figure 9, discloses an “ordered array” of resonant nanotubes (column 10, lines 28 – 38) arranged on the substrate (single layer), the nanotubes are responsive to electromagnetic energy (antenna

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radiating), the nanotube device is responsive to lightwaves (column 12, lines 38 – 43), and the electromagnetic energy comprises light of particular wavelengths (column 12, lines 39 – 40). Examiner is believed in error here.

Applicant wishes to point out that figure 9 of the '748 reference does not show or suggest an "ordered array" of resonant nanotubes. Figure 9 shows a central "core" of metal tubes without any "order". Figure 9 looks more like a spiny "Brillo Pad" without any order at all. The '748 reference, in column 10, line 30 et seq, thereof recites: "Some of these nanotubes are arranged in cylindrical clusters or bundles", (emphasis added). Clearly "cylindrical clusters or bundles" do not comprise an ordered array! Such prior art is not "an ordered array" as recited in Applicant's independent claim 19 (or claim 37).

The "single layer" term referenced in the '748 patent refers to the walls of the nanotubes. Note that on line 36 of column 10, it states "also appear to contain multi-layer tubes.". The reference to "layers" in the '748 patent is therefore to layers of the walls of the tubes, not to a layer of substrate!

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Examiner states that the '748 "nanotube" device is responsive to lightwaves in column 12, lines 38 – 43. There is however, no such recitation, expressly or inherently, in the '748 reference. Furthermore, in column 12, lines 38 – 43, the recitation relates to "encapsulates", not nanotubes. In col. 10, lines 39 - 40, recite: "The encapsulates are opaque, absorbing most of the light energy to which they are exposed." There is no teaching of "responsiveness" to light. Examiner appears to have misinterpreted the '748 reference.

Independent claim 37 and its respective dependent claims 38 - 39 and 41 - 43 also stand rejected under 35 USC 102(e) as being anticipated by the Ruoff et al '748 reference. Independent claim 37 recites "A nanotube bandgap device having a substrate with an ordered array of nanotubes thereon, said nanotubes having a predetermined position on said substrate, said nanotubes having a predetermined dimension." Clearly, there is no "ordered" array or of predetermined dimensions of nanotubes shown or suggested in the Ruoff et al reference. Withdrawal of the rejection under 35 USC 102 is therefore believed proper and is requested.

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To receive patent protection, an invention must be novel, i.e., not anticipated by the prior art, as under 35 USC 102. An invention is anticipated, and therefore invalid, if a single prior art reference expressly or inherently discloses each and every limitation of the claimed invention, See *Scripps Clinic & Research Foundation v. Genentech, Inc.*, 927 F2d 1565 18 U.S. P.Q. 2d (BNA) 1896 (Fed. Cir. 1991).

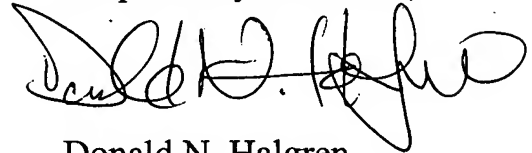
Clearly neither the cited prior art '748 reference, nor any other reference shows every limitation, either expressly or inherently, of the independent claims 19 and 37. Applicant notes that claims 28 – 36, have already been allowed. Claims 20 – 23 are allowable but for dependence upon rejected base claim 19. Claim 19 has now been shown to be allowable as well as independent claim 37. Their respective dependent claims thereby also being allowable. Passage to allowance is thus earnestly solicited.

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Should the Examiner believe that any issue remains unresolved, the  
Examiner is invited to call the undersigned for a discussion of same.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Donald N. Halgren". The signature is fluid and cursive, with a large loop at the end.

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